

--11. (new) A method of processing polymer-based mixtures and compounds in a closed mixer, wherein the mixer comprises:

a mixing chamber;

a pair of rotors; and

a pressing ram;

wherein the pressing ram is movable between a resting condition, which allows introduction of material into the mixing chamber, and a working condition;

the method comprising the steps of:

introducing material into the mixing chamber;

moving the pressing ram from the resting condition to an upper end-of-stroke position;

and

moving the pressing ram from the upper end-of-stroke position to a lower end-of-stroke position;

wherein a position-time profile of the pressing ram is controlled during the step of moving the pressing ram from the upper end-of-stroke position to the lower end-of-stroke position.

12. (new) The method of claim 11, wherein control of the position-time profile of the pressing ram is initiated when the pressing ram contacts the material.

13. (new) The method of claim 11, wherein the position-time profile of the pressing ram is controlled by regulating a control pressure of the pressing ram to follow a predetermined reference position-time profile.

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14. (new) The method of claim 11, wherein the step of moving the pressing ram from the resting condition to the upper end-of-stroke position is preceded by a step of introducing into the mixing chamber at least one reinforcing filler of a polymer base, and wherein the step of moving the pressing ram from the upper end-of-stroke position to the lower end-of-stroke position occurs during incorporation of the at least one reinforcing filler into the polymer base.

15. (new) The method of claim 14, wherein the pressing ram reaches the lower end-of-stroke position at an end of incorporation of the at least one reinforcing filler into the polymer base.

16. (new) The method of claim 15, wherein plasticizers of the polymer base are introduced into the mixing chamber after the pressing ram has reached the lower end-of-stroke position.

17. (new) The method of claim 14, wherein the at least one reinforcing filler of the polymer base comprises one or more of carbon black and silica.

18. (new) The method of claim 11, wherein the position-time profile of the pressing ram is a direct processing parameter.

19. (new) The method of claim 11, wherein the material introduced into the mixing chamber comprises a crosslinking system for a polymer-based mixture.

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